

## Abstract

### Title:

A High Velocity Collision Induced Starburst in Intragroup Medium

Authors: Yu Gao, Cong Xu (IPAC), & J.J. Condon (NRAO)

### Abstract:

Here we report the detection of a bright starburst in the intragroup medium (IGM) of the famous compact group of galaxies ``Stephan's Quintet''. This burst is triggered by a collision between a high velocity ( $\sim 1000$  km/sec) intruder galaxy (NGC7318b) and the cold IGM of the group. We present new ISO mid-infrared (15  $\mu$ m and 11.4  $\mu$ m) and far-infrared (60  $\mu$ m and 100  $\mu$ m) observations along with new ground-based  $H_{\alpha}$  and (K'-band) images, BIMA CO(1-0) observations, VLA 20cm continuum images and SCUBA sub-millimeter observations.

This is the first known starburst that is induced by a galaxy+cold-IGM collision. It provides new constraints on theories about interaction-induced starbursts, and may hint at a new mechanism for the star formation excess seen in more distant clusters.